

Express Mail Label No. EL00822715US  
Date of Deposit 10/19/00

PATENT

Attorney Docket No. 17682A-005100

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Reissue Application of: )  
)  
U.S. Patent No. 5,824,796 )  
)  
Inventors: Charles R. Petrie, Rich B. Meyer, )  
John C. Tabone and Gerald D. Hurst ) REISSUE DECLARATION UNDER  
) 37 C.F.R. § 1.175(a) AND POWER OF  
Serial No.: Not yet assigned ) ATTORNEY  
)  
Filed: Herewith )  
)  
For: CROSS-LINKING )  
OLIGONUCLEOTIDES )  
\_\_\_\_\_ )

BOX REISSUE APPLICATION  
Assistant Commissioner of Patents  
Washington, D.C. 20231

Sir:

We, Charles R. Petrie, Rich B. Meyer, John C. Tabone and Gerald D. Hurst  
declare as follows:

1. Charles R. Petrie of 18459 NW 196th Place, Woodinville, Washington 98072, Rich B. Meyer of 3739 Hamilton Way, Redwood City, California 94062, John C. Tabone of 12117 NE 166th Place, Bothell Washington 98011 and Gerald D. Hurst of *address unknown*, are citizens of the United States of America.

2. The entire right, title, and interest to U.S. Patent No. 5,824,796, issued October 20, 1998, is vested in Epoch Biosciences, Inc., a Delaware corporation, by assignment. Epoch Biosciences, Inc. has a regular and established place of business in Redmond, Washington 98052. An assignment from us to Microprobe Corporation (now Epoch Biosciences, Inc.) was recorded on October 26, 1988 at Reel 4963, Frame 220 for parent application Serial No. 250,474 and on July 24, 1989 at Reel 5162, Frame 48 for parent application Serial No. 353,857.

3. We are the original, first and joint inventors of the invention described and claimed in the above-identified United States Letters Patent and the claims added by the above referenced reissue application, for which invention we seek a reissue of the aforesaid Letters Patent.

4. We do not know and do not believe that said invention was ever known or used in the United States of America before our invention thereof.

5. We do not know and do not believe that said invention was in public use more than one year prior to filing the original application for U.S. Patent No. 5,824,796.

6. We do not know and do not believe that the invention was on sale, within the meaning of 35 USC 102(b), in this country more than one year prior to the filing date of said original application.

7. We also believe the original patent to be partly or wholly inoperative or invalid because of error without deceptive intent on our part. We believe the original patent to be partly or wholly inoperative or invalid because we claimed less than that to which we had a right to claim in the patent. In particular we believe that it was error not to include those compounds in which the linking groups between the nucleic acid bases and the reporter groups were unsaturated alkyl chains, such as for example, C<sub>2</sub>-C<sub>12</sub> alkenylene and C<sub>2</sub>-C<sub>12</sub> alkynylene in the original patent. New claims 16 through 44 are now added as reissue claims. The errors which resulted in this application for reissue and resulted in such claims not being included in the original patent arose due to our failure to appreciate the extent to which the original claims included elements which unduly limited the scope of protection afforded our invention. Our original patent claims, see claims 1-15, for example, contained claims to oligonucleotides and compounds in which crosslinking groups and reporter groups are attached to the oligonucleotide or compound via a saturated alkylene chain that is optionally interrupted by a heteroatom (e.g., O, NH or S). We believe we are also entitled to claims drawn to intermediates in the preparation of the claimed compounds that terminate in a heteroatom or protected form thereof.

8. More specifically, in the original application, we failed to recognize and appreciate features and combinations of the invention which we invented and which we believe are patentable over the prior art. We have added new claims 16-44 to other oligonucleotides and compounds of modified pyrazolo[3,4-d]pyrimidines and other pyrimidine bases to correct our error in not so claiming in our original patent. We believe this occurred in part because our preferred embodiment was the cross-linking oligonucleotides, and we failed to recognize that certain intermediates and other species of labeled compounds and oligonucleotides could be claimed.

9. We have reviewed and understand the contents of the attached specification and claims, including the new claims as presented in this application for reissue of the original Letters Patent.

10. We acknowledge the duty to disclose information of which we are aware and which is material to the examination of this application for reissue of the original Letters Patent in accordance with 37 C.F.R. § 1.56.

11. The aforementioned errors in claiming less than we had a right to claim arose without any deceptive intention on our part and was only recognized as a result of comparing the issued claims with the business interests of Epoch Pharmaceuticals, Inc., now Epoch Biosciences, Inc.

12. We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

13. We hereby appoint the following attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: William M. Smith, Reg. No. 30,223, William B. Kezer, Reg. No. 37,369, Eugenia Garrett-Wackowski, Reg. No. 37,330, Joseph R. Snyder, Reg. No. 39,381 and Kevin L. Bastian, Reg. No. 34,774.

14. Please send all correspondence to Townsend and Townsend and Crew LLP, ATTN: William B. Kezer, Two Embarcadero Center, 8th Floor, San Francisco, California 94111-3834. Direct all telephone calls to Mr. Kezer at (415) 576-0200.

15. This declaration may be executed in counterpart and by copy with the same force and effect as if executed as one complete and integrated document.

Full name of first inventor: Charles R. Petrie

Inventor's signature: Charles R. Petrie 10/16/2000

Date: 10/16/2000 Country of Citizenship: U.S.A.

Residence: 18459 NW 196th Place, Woodinville, Washington 98072

Full name of second inventor: Rich B. Meyer

Inventor's signature: \_\_\_\_\_

Date: \_\_\_\_\_ Country of Citizenship: U.S.A.

Residence: 3739 Hamilton Way, Redwood, California 94062

Full name of third inventor: John C. Tabone

Inventor's signature: \_\_\_\_\_

Date: \_\_\_\_\_ Country of Citizenship: U.S.A.

Residence: 12117 NE 166th Place, Bothell Washington 98011

Full name of third inventor: Gerald D. Hurst

Inventor's signature: \_\_\_\_\_

Date: \_\_\_\_\_ Country of Citizenship: U.S.A.

Residence: *Unknown*

SF1142663

Express Mail Label No. EL00822715US  
Date of Deposit 10119160



PATENT  
Attorney Docket No. 17682A-005100

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Reissue Application of:	)	
	)	
U.S. Patent No. 5,824,796	)	
	)	
Inventors: Charles R. Petrie, Rich B. Meyer,	)	
John C. Tabone and Gerald D. Hurst	)	REISSUE DECLARATION UNDER
	)	37 C.F.R. § 1.175(a) AND POWER OF
Serial No.: Not yet assigned	)	<u>ATTORNEY</u>
	)	
Filed: Herewith	)	
	)	
For: CROSS-LINKING	)	
OLIGONUCLEOTIDES	)	
	)	

BOX REISSUE APPLICATION  
Assistant Commissioner of Patents  
Washington, D.C. 20231

Sir:

We, Charles R. Petrie, Rich B. Meyer, John C. Tabone and Gerald D. Hurst  
declare as follows:

1. Charles R. Petrie of 18459 NW 196th Place, Woodinville, Washington 98072, Rich B. Meyer of 3739 Hamilton Way, Redwood City, California 94062, John C. Tabone of 12117 NE 166th Place, Bothell Washington 98011 and Gerald D. Hurst of *address unknown*, are citizens of the United States of America.

2. The entire right, title, and interest to U.S. Patent No. 5,824,796, issued October 20, 1998, is vested in Epoch Biosciences, Inc., a Delaware corporation, by assignment. Epoch Biosciences, Inc. has a regular and established place of business in Redmond, Washington 98052. An assignment from us to Microprobe Corporation (now Epoch Biosciences, Inc.) was recorded on October 26, 1988 at Reel 4963, Frame 220 for parent application Serial No. 250,474 and on July 24, 1989 at Reel 5162, Frame 48 for parent application Serial No. 353,857.

3. We are the original, first and joint inventors of the invention described and claimed in the above-identified United States Letters Patent and the claims added by the above referenced reissue application, for which invention we seek a reissue of the aforesaid Letters Patent.

4. We do not know and do not believe that said invention was ever known or used in the United States of America before our invention thereof.

5. We do not know and do not believe that said invention was in public use more than one year prior to filing the original application for U.S. Patent No. 5,824,796.

6. We do not know and do not believe that the invention was on sale, within the meaning of 35 USC 102(b), in this country more than one year prior to the filing date of said original application.

7. We also believe the original patent to be partly or wholly inoperative or invalid because of error without deceptive intent on our part. We believe the original patent to be partly or wholly inoperative or invalid because we claimed less than that to which we had a right to claim in the patent. In particular we believe that it was error not to include those compounds in which the linking groups between the nucleic acid bases and the reporter groups were unsaturated alkyl chains, such as for example, C<sub>2</sub>-C<sub>12</sub> alkenylene and C<sub>2</sub>-C<sub>12</sub> alkynylene in the original patent. New claims 16 through 44 are now added as reissue claims. The errors which resulted in this application for reissue and resulted in such claims not being included in the original patent arose due to our failure to appreciate the extent to which the original claims included elements which unduly limited the scope of protection afforded our invention. Our original patent claims, see claims 1-15, for example, contained claims to oligonucleotides and compounds in which crosslinking groups and reporter groups are attached to the oligonucleotide or compound via a saturated alkylene chain that is optionally interrupted by a heteroatom (e.g., O, NH or S). We believe we are also entitled to claims drawn to intermediates in the preparation of the claimed compounds that terminate in a heteroatom or protected form thereof.

8. More specifically, in the original application, we failed to recognize and appreciate features and combinations of the invention which we invented and which we believe are patentable over the prior art. We have added new claims 16-44 to other oligonucleotides and compounds of modified pyrazolo[3,4-d]pyrimidines and other pyrimidine bases to correct our error in not so claiming in our original patent. We believe this occurred in part because our preferred embodiment was the cross-linking oligonucleotides, and we failed to recognize that certain intermediates and other species of labeled compounds and oligonucleotides could be claimed.

9. We have reviewed and understand the contents of the attached specification and claims, including the new claims as presented in this application for reissue of the original Letters Patent.

10. We acknowledge the duty to disclose information of which we are aware and which is material to the examination of this application for reissue of the original Letters Patent in accordance with 37 C.F.R. § 1.56.

11. The aforementioned errors in claiming less than we had a right to claim arose without any deceptive intention on our part and was only recognized as a result of comparing the issued claims with the business interests of Epoch Pharmaceuticals, Inc., now Epoch Biosciences, Inc.

12. We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

13. We hereby appoint the following attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: William M. Smith, Reg. No. 30,223, William B. Kezer, Reg. No. 37,369, Eugenia Garrett-Wackowski, Reg. No. 37,330, Joseph R. Snyder, Reg. No. 39,381 and Kevin L. Bastian, Reg. No. 34,774.

14. Please send all correspondence to Townsend and Townsend and Crew LLP, ATTN: William B. Kezer, Two Embarcadero Center, 8th Floor, San Francisco, California 94111-3834. Direct all telephone calls to Mr. Kezer at (415) 576-0200.

15. This declaration may be executed in counterpart and by copy with the same force and effect as if executed as one complete and integrated document.

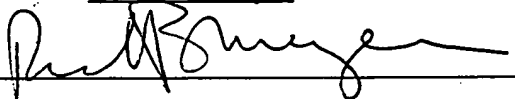
Full name of first inventor: Charles R. Petrie

Inventor's signature: \_\_\_\_\_

Date: \_\_\_\_\_ Country of Citizenship: U.S.A.

Residence: 18459 NW 196th Place, Woodinville, Washington 98072

Full name of second inventor: Rich B. Meyer

Inventor's signature: 

Date: 10/16/00 Country of Citizenship: U.S.A.

Residence: 3739 Hamilton Way, Redwood, California 94062

Full name of third inventor: John C. Tabone

Inventor's signature: \_\_\_\_\_

Date: \_\_\_\_\_ Country of Citizenship: U.S.A.

Residence: 12117 NE 166th Place, Bothell Washington 98011

Full name of third inventor: Gerald D. Hurst

Inventor's signature: \_\_\_\_\_

Date: \_\_\_\_\_ Country of Citizenship: U.S.A.

Residence: *Unknown*

SF1142663





3. We are the original, first and joint inventors of the invention described and claimed in the above-identified United States Letters Patent and the claims added by the above referenced reissue application, for which invention we seek a reissue of the aforesaid Letters Patent.

4. We do not know and do not believe that said invention was ever known or used in the United States of America before our invention thereof.

5. We do not know and do not believe that said invention was in public use more than one year prior to filing the original application for U.S. Patent No. 5,824,796.

6. We do not know and do not believe that the invention was on sale, within the meaning of 35 USC 102(b), in this country more than one year prior to the filing date of said original application.

7. We also believe the original patent to be partly or wholly inoperative or invalid because of error without deceptive intent on our part. We believe the original patent to be partly or wholly inoperative or invalid because we claimed less than that to which we had a right to claim in the patent. In particular we believe that it was error not to include those compounds in which the linking groups between the nucleic acid bases and the reporter groups were unsaturated alkyl chains, such as for example, C<sub>2</sub>-C<sub>12</sub> alkenylene and C<sub>2</sub>-C<sub>12</sub> alkynylene in the original patent. New claims 16 through 44 are now added as reissue claims. The errors which resulted in this application for reissue and resulted in such claims not being included in the original patent arose due to our failure to appreciate the extent to which the original claims included elements which unduly limited the scope of protection afforded our invention. Our original patent claims, see claims 1-15, for example, contained claims to oligonucleotides and compounds in which crosslinking groups and reporter groups are attached to the oligonucleotide or compound via a saturated alkylene chain that is optionally interrupted by a heteroatom (e.g., O, NH or S). We believe we are also entitled to claims drawn to intermediates in the preparation of the claimed compounds that terminate in a heteroatom or protected form thereof.

8. More specifically, in the original application, we failed to recognize and appreciate features and combinations of the invention which we invented and which we believe are patentable over the prior art. We have added new claims 16-44 to other oligonucleotides and compounds of modified pyrazolo[3,4-d]pyrimidines and other pyrimidine bases to correct our error in not so claiming in our original patent. We believe this occurred in part because our preferred embodiment was the cross-linking oligonucleotides, and we failed to recognize that certain intermediates and other species of labeled compounds and oligonucleotides could be claimed.

9. We have reviewed and understand the contents of the attached specification and claims, including the new claims as presented in this application for reissue of the original Letters Patent.

10. We acknowledge the duty to disclose information of which we are aware and which is material to the examination of this application for reissue of the original Letters Patent in accordance with 37 C.F.R. § 1.56.

11. The aforementioned errors in claiming less than we had a right to claim arose without any deceptive intention on our part and was only recognized as a result of comparing the issued claims with the business interests of Epoch Pharmaceuticals, Inc., now Epoch Biosciences, Inc.

12. We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

13. We hereby appoint the following attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: William M. Smith, Reg. No. 30,223, William B. Kezer, Reg. No. 37,369, Eugenia Garrett-Wackowski, Reg. No. 37,330, Joseph R. Snyder, Reg. No. 39,381 and Kevin L. Bastian, Reg. No. 34,774.

14. Please send all correspondence to Townsend and Townsend and Crew LLP, ATTN: William B. Kezer, Two Embarcadero Center, 8th Floor, San Francisco, California 94111-3834. Direct all telephone calls to Mr. Kezer at (415) 576-0200.

15. This declaration may be executed in counterpart and by copy with the same force and effect as if executed as one complete and integrated document.

Full name of first inventor: Charles R. Petrie

Inventor's signature: \_\_\_\_\_

Date: \_\_\_\_\_ Country of Citizenship: U.S.A.

Residence: 18459 NW 196th Place, Woodinville, Washington 98072

Full name of second inventor: Rich B. Meyer

Inventor's signature: \_\_\_\_\_

Date: \_\_\_\_\_ Country of Citizenship: U.S.A.

Residence: 3739 Hamilton Way, Redwood, California 94062

Full name of third inventor: John C. Tabone

Inventor's signature: John C. Tabone

Date: 10/17/00 Country of Citizenship: U.S.A.

Residence: 12117 NE 166th Place, Bothell Washington 98011

Full name of third inventor: Gerald D. Hurst

Inventor's signature: \_\_\_\_\_

Date: \_\_\_\_\_ Country of Citizenship: U.S.A.

Residence: *Unknown*

SF1142663